JVC Instructions

PROFESSIONAL EDITING RECORDER

BR-S810E

S-VHS 625 VHS PAL Hi-Fi

PGD30002-126

Warning Notice
FOR YOUR SAFETY (Australia)

1. Insert this plug only into effectively earthed three-pin power outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cord, if used, must be three-core correctly wired.

IMPORTANT (In the United Kingdom)
Mains Supply (AC 240 V~)
WARNING – THIS APPARATUS MUST BE EARTHED

The wires in this mains lead are coloured in accordance with the following code:

GREEN-and-YELLOW:	EARTH
BLUE:	NEUTRAL
BROWN:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows. The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or which is coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

POWER SYSTEM

Connection to the mains supply
The operating voltage of this set is preset to 240 V~ at the factory.
Before connecting to mains, check that the voltage selector on the rear panel is set to the same voltage as your local mains supply.

Adapting to local power line
This set operates on either 110, 127, 220 or 240 V~.
If the preset voltage is different from the power line voltage in your area, reset the voltage selector by inserting a screwdriver into the slot of the voltage selector and turning it until the correct voltage is displayed.

This equipment has been produced to comply with Directive number 82/499/EEC.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

Note: The rating plate and the safety caution are on the rear of the unit.

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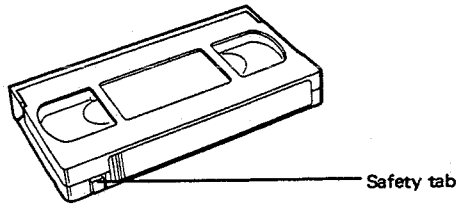
PRECAUTIONS

Handling and storage

- Avoid using the recorder under the following conditions:
  - extremely hot, cold or humid places,
  - dusty places,
  - near appliances generating strong magnetic fields,
  - places subject to vibrations, and
  - poorly ventilated places.
- Be careful of moisture condensation.
  Avoid using the recorder immediately after moving it from a cold place to a warm place or soon after heating a room which was cold. The water vapor in warm air will condense on the still-cold video head drum and tape guides and may cause damage to the tape and the recorder.
- Handle the recorder carefully.
  - Do not block the ventilation openings.
  - Do not place anything heavy on the recorder.
  - Do not place anything which might spill and cause trouble on the top cover of the recorder.
  - Use in horizontal (flat) position only.
- In case of transportation,
  - Avoid violent shocks to the recorder during packing and transportation.
  - Before packing, be sure to remove the cassette from the recorder.

Video cassettes

- This recorder employs S-VHS and VHS cassettes only.
  S-VHS: SE-180 for 180 minutes, SE-120 for 120 minutes and SE-60 for 60 minutes of recording.
  VHS: E-240 for 240 minutes, E-180 for 180 minutes, E-120 for 120 minutes, E-90 for 90 minutes and E-60 for 60 minutes of recording.
- Video cassettes are equipped with a safety tab to prevent accidental erasure. When the tab is removed, recording cannot be performed.



- Avoid exposing the cassettes to direct sunlight. Keep them away from heaters.
- Avoid extreme humidity, violent vibrations or shocks, strong magnetic fields (near a motor, transformer or magnet) and dusty places.
- Place the cassettes in cassette cases and position vertically.

FEATURES

High-quality video recording and playback
Conforming to the S-VHS format which offers a picture with well over 400 lines of horizontal resolution, the BR-S810E employs the Standard Play mode only to ensure the highest possible basic performance and the best possible overall picture quality, as required from an editing recorder.

Professional-quality editing functions
The BR-S810E has a pair of rotary erase heads and a blanking switcher which make possible assemble and insert editing with virtually no distotion at edit points. Edit flagging and color flashing are minimized by use of a color framing servo and extremely stable horizontal phase lock. Furthermore, its 45-pin parallel remote control connector permits connection of the RM-G810U(E) Editing Controller of more effective editing.

Heavy-duty mechanism
Independent direct-drive motors are provided for the head drum, capstan and reels. For higher reliability and durability, all components are mounted on a heavy-duty aluminum diecast chassis.

Separate Y/C input/output connectors
In addition to the composite video signal, the luminance (Y) and chroma (C) signals can be input and output as separated signals, thereby producing clear color pictures with minimized color noise. To suppress deterioration of color signals in dubbing, and thereby improve the overall quality of color dubs, the Y/C 627 mode is also available.

Variable-speed dial search and jog control
Convenient, easy-to-operate, concentric control dials are provided for fast and accurate location of edit points. Turning the outer dial varies the tape speed from still to 10 times normal in either direction. The inner dial functions as a jog control which regulates the tape movement in either direction, accurately responding to the speed with which the dial is turned.

Hi-Fi VHS audio with dynamic range of more than 87 dB
A pair of rotary FM-audio heads is provided exclusively for the recording and playback of Hi-Fi audio signals with an extended frequency response and dynamic range. Separate input terminals are provided for Hi-Fi and normal audio so that different soundtracks can be recorded on these tracks. The normal audio is two-channel with the Dolby* noise reduction system.

*Dolby noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation. Dolby and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Manual audio/video level control
The recording level of the video and audio signals can be controlled manually by referring to independent level meters. The video level meter also serves as a tracking meter during playback.

Newly developed auto-cleaning mechanism
The video and Hi-Fi audio heads are automatically cleaned when the tape is loaded or unloaded.

Concentrated indications of recorder status settings
Easy-to-see LED indicators are provided on the front panel for framing/servo lock, CTL pulse, H-phase, time code, Dolby NR and Hi-Fi Audio.

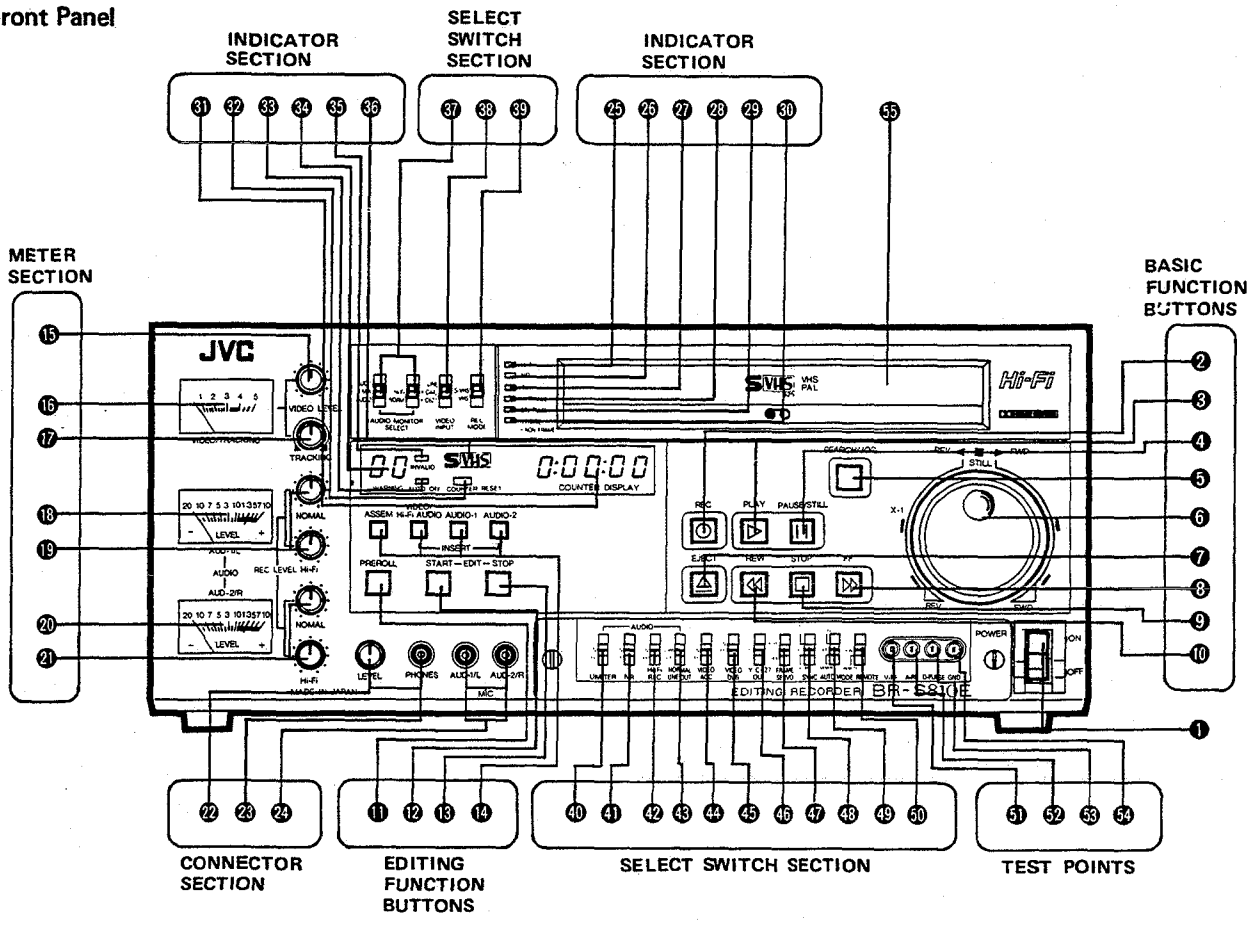
Front panel test points
To facilitate alignment, test points for the video head and Hi-Fi audio head output signals are provided on the front panel.

Half-loading mechanism
A new tape loading mechanism, called "half-loading", is employed to enable CTL pulses to be read even in the FF and REW modes.

Other features
- External sync and RF output (for DOC) connectors
- Self-illuminated function buttons
- Automatic repeat playback and counter Memory function
- 19-Inch EIA rack mounting possible
- Selectable audio monitor output (AUD-1/AUD-2/MIX/Hi-Fi/Normal)
- Digital time counter in hours, minutes and seconds
- Color Framing/Framing servo on/off select switch
- Headphone jack with adjustable output level
- Recording and playback of EBU time code
- Hour meter showing up to 1000 hours
- Two VIDEO LINE OUT connectors and two separate Y/C IN/OUT (Y/C 627 & Y/C 443) connectors
- Hi-Fi audio output and Hi-Fi/normal switchable audio output connectors
- Hi-Fi audio recording on/off switch
- Microprocessor-controlled diagnostic warning system for detection and indication of electronic and mechanical malfunctions.

CONTROLS AND CONNECTORS

Front Panel



BASIC FUNCTION BUTTONS

❶ POWER switch
Set to ON to turn the power on. The indicator will light and the level meters will be illuminated.

❷ Record button (REC)
Press together with the PLAY button for recording. Audio is recorded on both channels, if there are signals for them. The REC and PLAY buttons will remain illuminated during recording. When the REC button is pressed during playback, the monitor screen switches from the playback picture to the E-E mode picture, allowing you to monitor the signals applied to the input terminals.

❸ PLAY button
Press to start playback. The PLAY button will be illuminated. Press together with the REC button to start recording.

❹ PAUSE/STILL button
Press to stop the tape temporarily during recording or playback. The button will be illuminated. To release the Pause or Still mode, press any button except EJECT corresponding to the mode you wish to enter next.

❺ SEARCH/JOG button
Pressing this button enables the rotary search/jog dials. The button will be illuminated.

❻ Rotary search/jog dials
Constructed in the form of dual concentric controls, the outer control functions as a search dial and the inner one functions as a jog dial.

Search dial: When the dial is set to STILL (centre position), the Still mode is entered with the STILL indicator lit. When the dial is turned clockwise toward FWD, forward playback takes place at a speed corresponding to the dial setting, with the FWD indicator lit. When the dial is turned counterclockwise toward REV, reverse playback takes place at a speed corresponding to the dial setting, with the REV indicator lit. The search speed is continuously variable between 1/30 and10 times normal in both directions. If the control mode is changed by any function button, the dial setting remains unchanged and the corresponding speed is instantly engaged by pressing the SEARCH/JOG button.

Jog dial: Use the jog dial to view the tape manually; the tape moves at a speed with which this dial is turned. When the dial is turned clockwise from the STILL position, forward playback takes place, and vice versa. When the dial is stationary, the picture is still. The jog mode cannot be used in the Edit or Record mode.

❼ EJECT button
Press to eject the cassette. This button can be pressed in the Stop mode or immediately after the STOP button has been pressed.

⑧ Fast Forward button (FF)
Press to fast forward the tape. While the tape is being fast forwarded, the FF button will remain illuminated. This button can be pressed in any mode except Record, Edit or Eject. To release the Fast Forward mode, press the PLAY, STOP or REW button depending on the mode you want to enter next. Pressing this button in the Play or Search mode enables high-speed playback at about 10 times normal speed in the forward direction. During search the PLAY and FF buttons will remain illuminated.

⑨ STOP button
Press to stop the tape. When the STOP button is pressed, the tape is unloaded and then the Stop mode is engaged. The STOP button blinks during tape unloading and remains lit upon completion of unloading.

⑩ Rewind button (REW)
Press to rewind the tape. While the tape is being rewound, the REW button will remain illuminated. This button can be pressed in any mode except Record, Edit or Eject. To release the Rewind mode, press the PLAY, STOP or FF button depending on the mode you want to enter next. Pressing this button in the Play or Search mode enables high-speed playback at about 10 times normal speed in the reverse direction. During search the PLAY and REW buttons will remain illuminated.

EDITING FUNCTION BUTTONS

⑪ PREROLL button
Operative in the Still mode. When this button is pressed after the edit point has been determined by pressing the PAUSE/STILL button, the tape is rewound by about 10 seconds of program time and enters the Edit Standby mode. (The PLAY and PAUSE/STILL buttons will be illuminated.) To cancel this mode, press the EDIT STOP or PLAY button.

⑫ EDIT START button
Press to start editing. This button functions in the Edit Standby or Play mode.

⑬ EDIT STOP button
Press to stop editing.

⑭ Edit mode select buttons
ASSEM: When this button is pressed to ON (it will be illuminated), video, Hi-Fi audio, normal audio-1 and audio-2 signals are all assemble-edited when the EDIT START button is pressed.
INSERT
AUDIO-1: Press to ON to insert-edit the normal audio-1 signal.
AUDIO-2: Press to ON to insert-edit the normal audio-2 signal.
VIDEO/Hi-Fi AUDIO: Press to ON to insert-edit the video and Hi-Fi audio signals.

- To release these buttons to OFF, press them once again.
- The AUDIO-1, AUDIO-2 and VIDEO/Hi-Fi AUDIO buttons can be pressed to ON in any combination. Also, these buttons can be switched ON or OFF even during insert-editing.

METER SECTION

⑮ VIDEO LEVEL control
To adjust the video recording level manually, set the VIDEO AGC switch ㊹ to OFF and turn this control so that the meter ⑯ deflects into the green area.

⑯ VIDEO/TRACKING meter
Functions as a video level meter during recording and as a tracking meter during playback.

⑰ TRACKING control
To remove noise bars or to correct Hi-Fi tracking during playback, turn this control so that the meter ⑯ makes its maximum deflection.

⑱ AUDIO-1/LEFT AUDIO level meter
Indicates the recording level of the normal audio-1 or Hi-Fi left-channel signal during recording, the playback signal during playback or the E-E signal in any other mode. Switching between normal and Hi-Fi is done with the AUDIO MONITOR SELECT switch.

⑲ NORMAL/Hi-Fi (AUD-1/LEFT) REC LEVEL controls
To adjust the normal audio-1 or Hi-Fi left-channel signal, turn the corresponding control so that the meter ⑱ deflects to "0" with the loudest signal.

⑳ AUDIO-2/RIGHT AUDIO level meter
Indicates the recording level of the normal audio-2 or Hi-Fi right-channel signal during recording, the playback signal during playback or the E-E signal in any other mode.

㉑ NORMAL/Hi-Fi (AUD-2/RIGHT) REC LEVEL controls
To adjust the normal audio-2 or Hi-Fi right-channel signal, turn the corresponding control so that the meter ⑳ deflects to "0" with the loudest signal.

CONNECTOR SECTION

㉒ PHONES LEVEL control
Adjusts the output level of the PHONES jack.

㉓ PHONES jack
Connect a set of headphones for monitoring the sound being recorded.

㉔ MIC jacks (AUD-1/LEFT, AUD-2/RIGHT)
Connect microphones to switch the input signal from line to microphone.

INDICATOR SECTION

㉕ Hi-Fi indicator
Lights when Hi-Fi audio signals are being recorded.

㉖ Dolby NR indicator
Lights when the built-in Dolby* noise reduction system is activated.

㉗ Time Code indicator (TC)
Remains lit when the rear panel TIME CODE/AUDIO select switch ㊾ is in the TIME CODE position.
Note: When the indicator is lit, the NORMAL audio-2 signal is muted.

㉘ **H-PHASE indicator**
Lights when the horizontal phase of the BR-S810E and a connected player's phase are synchronized.

㉙ **CTL PULSE indicator**
Lights when a tape with no control pulse recorded is played back.

㉚ **FRAME/NON FRAME indicator**
GREEN (FRAME): When the FRAME mode is used in recording or playback, the LED will light green.
YELLOW (NON FRAME): In normal recording, when recording onto a no signal tape, or when playing back in the reverse FRAME mode,the LED will light yellow. If framing servo is unlocked, the LED will blink in yellow.

㉛ **Realtime tape counter**
Shows tape time in hours, minutes and seconds by counting the number of CTL pulses. This tape counter does not function when a tape with no CTL pulses is being played back. The display starts blinking 5 to 10 minutes before the tape end during recording.

㉜ **COUNTER RESET button**
Press to reset the tape counter to zero.

㉝ **AUTO OFF indicator**
If the tape running is in some way incorrect, this indicator will light.

㉞ **WARNING display**
Two-digit numbers indicate various malfunctions for easy troubleshooting. For more details refer to pages 20 and 21.

㉟ **INVALID indicator**
Lights when the REC and PLAY buttons are pressed in the S-VHS recording mode with a standard VHS tape loaded. No change in mode will take place, but the previous operation will continue. The INVALID indicator will also light in YC627 dubbing with the recorder in the S-VHS mode and the player in the VHS mode, and in VHS recording with the player in the S-VHS mode and the YC627 OUT select switch set to S-VHS.

㊱ **S-VHS indicator**
Lights when the S-VHS recording mode is selected. In playback of S-VHS recordings, lights automatically.
Also lights when playing back the blank section of VHS tapes.

SELECT SWITCH SECTION

㊲ **AUDIO MONITOR SELECT switches**
These switches select the audio output available from the PHONES jack and the AUDIO MONITOR connector. The Hi-Fi/NORMAL switch also functions to switch the audio level meters between Hi-Fi and NORMAL.
Hi-Fi: To monitor the Hi-Fi audio signals.
NORMAL: To monitor the NORMAL audio signals.
AUD-1/LEFT: To monitor the NORMAL audio-1 or Hi-Fi left-channel signal.
MIX: To monitor a mixture of both channels.
AUD-2/RIGHT: To monitor the NORMAL audio-2 or Hi-Fi right-channel signal.
Note:
The output from the AUDIO OUT NORMAL RIGHT connector is shorted if the TC indicator ㉗ is lit.

㊳ **VIDEO INPUT select switch**
Selects the video input signal applied to the VIDEO IN LINE or YC443, YC627 connector.
LINE: Set to this position when recording the composite video signal applied to the VIDEO IN LINE connector.
YC443: Set to this position when recording the separated Y/C signals conforming to the YC443 system (S-VHS signal) applied to the YC443 connector.
YC627: Set to this position when recording the separated Y/C signals conforming to the YC627 system (Y and down converted C signals) coming from the 7-pin DUB OUT connector applied to the YC627 connector.

㊴ **REC MODE select switch**
S-VHS : To record in the S-VHS mode (SP).
VHS : To record in the VHS mode (SP).

㊵ **AUDIO LIMITER switch**
Set to ON to activate the built-in audio limiter circuit. Manual level control is possible even when the limiter circuit is on.

㊶ **Audio noise reduction switch (NR)**
Set to ON to activate the built-in Dolby* noise reduction system for the NORMAL audio signal.

㊷ **Hi-Fi REC select switch**
ON: Set to ON to record the Hi-Fi audio signal.
OFF: Set to OFF when recording the Hi-Fi audio signal is not desired.

㊸ **NORMAL LINE OUT select switch**
Selects the output signal from the AUDIO OUT NORMAL connectors.
NORM: Set to this position to output the normal audio signals from the AUDIO OUT NORMAL connectors.
Hi-Fi: Set to this position to output the Hi-Fi audio signals from the AUDIO OUT NORMAL connectors.

㊹ **VIDEO AGC switch**
Set to ON to activate the built-in video AGC circuit.

㊺ **VIDEO DUB switch**
OFF: Normally set to this position. The detail enhancer (only VHS mode) circuit will be ON in recording, and the noise reduction circuit will be ON in playback.
ON: In this position, the detail enhancer (only VHS mode) circuit is OFF in recording, and the noise reduction effect is reduced in playback. Set the switch to this position when using the BR-S810E as the player in dubbing.

㊻ **YC627 OUT select switch**
S-VHS: In YC627 dubbing with an S-VHS recorder (BR-S810E/BR-S610E), set the player to this position.
VHS: YC627 dubbing with VHS recorder (BR-8600E/BR-6600E) or a S-VHS recorder (BR-S810E, BR-S610E) set to the VHS mode, set to this position.

㊼ **FRAME SERVO switch**
FRAME: Set to this position when editing from tapes which were not recorded in the colour frame mode.
COLOUR FRAME: Normally set to this position. Colour framing servo will produce distortion-free edits.
OFF: Set to this position when editing tapes which contain random-interlaced or low S/N signals.

㊽ **SYNC select switch**
Selects between different reference sync signals for the servo system during recording and playback.
EXT (EDIT): Set to this position when using the BR-S810E as a recorder in the external sync mode.
EXT (PB): Set to this position when using the BR-S810E as a player in the external sync mode.
VIDEO: Set to this position when recording or playing back using the input video signal as a reference signal.
For more information refer to "REFERENCE SYNC SIGNALS on page 15.

㊾ AUTO MODE switch

Selects between different automatic operations.

FULL REPEAT: For repeated playback from the beginning of the tape.

OFF: No automatic operation.

MEMORY: In the Rewind or Fast Forward mode, the tape will stop automatically at the counter reading of "0" or a few frames away from "0".

㊿ REMOTE switch

LOCAL: Set to this position when the recorder is to be controlled with its own function buttons. (With this switch set to the LOCAL position, the remote control unit connected to the rear panel 45-pin REMOTE connector will not function.)

REMOTE: Set to this position when the recorder is to be remote-controlled with the remote control unit connected to the 45-pin REMOTE connector. (No function buttons of the recorder except STOP and EJECT will function when this switch is set to the REMOTE position.)

TEST POINTS

(51) V-RF test point

The video head signal is output in the form of an FM signal during playback, allowing clogged or worn heads to be detected.

(52) A-RF test point

The Hi-Fi audio signal is output in the form of an FM signal during playback, allowing clogged or worn heads to be detected.

(53) D-PULSE pin

Connect to the external trigger terminal of an oscilloscope for a sync signal.

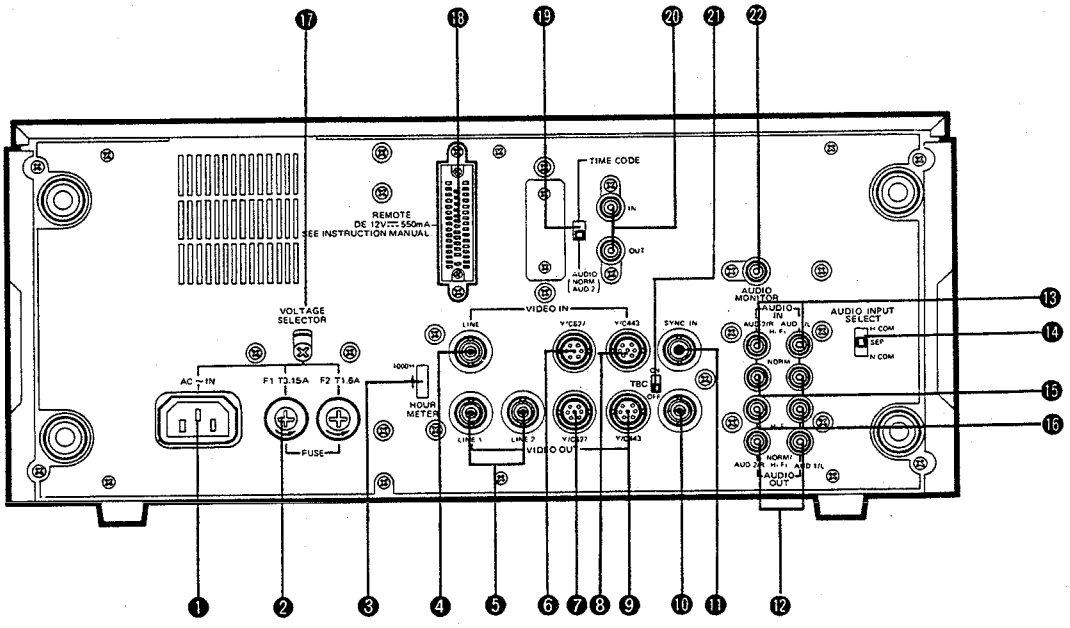
(54) GND pin

Connect to the ground terminal of an oscilloscope.

(55) Cassette loading slot

With the POWER switch set to ON, insert a video cassette with its labelled edge facing toward you. The cassette carriage will automatically take control and retract the cassette into the correct loaded position.

Rear Panel



❶ AC input socket (AC IN)
Connect to 110/120/220/240 V AC, 50/60 Hz power outlet.

❷ FUSE holder

❸ HOUR METER
Indicates the total operating time. After 1,000 hours of operation, the red line moves to the top end of the scale.

❹ VIDEO IN LINE connector
Input connector for the composite video signal.

❺ VIDEO OUT LINE connectors
Output connectors for the composite video signal. The same signal is output via these connectors in parallel.

❻ VIDEO IN YC627 connector
Receives the Y/C627 signal (separated luminance and down converted signals) via a Y/C cable.

❼ VIDEO OUT YC627 connector
Delivers the Y/C627 signal via a Y/C cable.

❽ VIDEO IN YC443 connector
Receives the Y/C443 signal (separated luminance and chroma signals) via a Y/C cable.

❾ VIDEO OUT YC443 connector
Delivers the Y/C443 signal to be monitored. Connect to a monitor equipped with an S-VIDEO input terminal using an optional Y/C cable.

❿ DOC RF OUT connector
For connection to a DOC (Dropout Compensator) or the DOC input terminal of a time base corrector.

⓫ External sync signal input connector (SYNC IN)
Accepts an external reference sync signal when the recorder is to be operated in the external sync mode. The external sync signal can be a composite sync or composite video signal.

⓬ AUDIO OUT NORM/Hi-Fi connectors (LEFT, RIGHT)

⓭ AUDIO IN Hi-Fi connectors (LEFT, RIGHT)

⓮ AUDIO INPUT SELECT switch
H COM: Set to this position to record the audio signals being input to the AUDIO IN Hi-Fi connectors onto both the Hi-Fi and Normal audio tracks. "Hi-Fi Combined" recording.
SEP: Set to this position to record the audio signals being input to the AUDIO IN Hi-Fi connectors onto the Hi-Fi audio track, and to the AUDIO IN NORMAL connectors onto the Normal audio track. "Separate" recording.
N COM: Set to this position to record the audio signals being input to the AUDIO IN NORMAL connectors onto both the Hi-Fi and Normal audio tracks. "Normal Combined" recording.

⓯ AUDIO IN NORMAL connectors (LEFT, RIGHT)

⓰ AUDIO OUT Hi-Fi connectors (LEFT, RIGHT)

⓱ VOLTAGE SELECTOR
See "POWER SYSTEM" on page 1.

⓲ REMOTE control connector
Connect a JVC remote control unit.

⓳ TIME CODE/AUDIO select switch
Set to TIME CODE to record the time code on the Normal audio track channel 2. Normally set this switch to AUDIO.

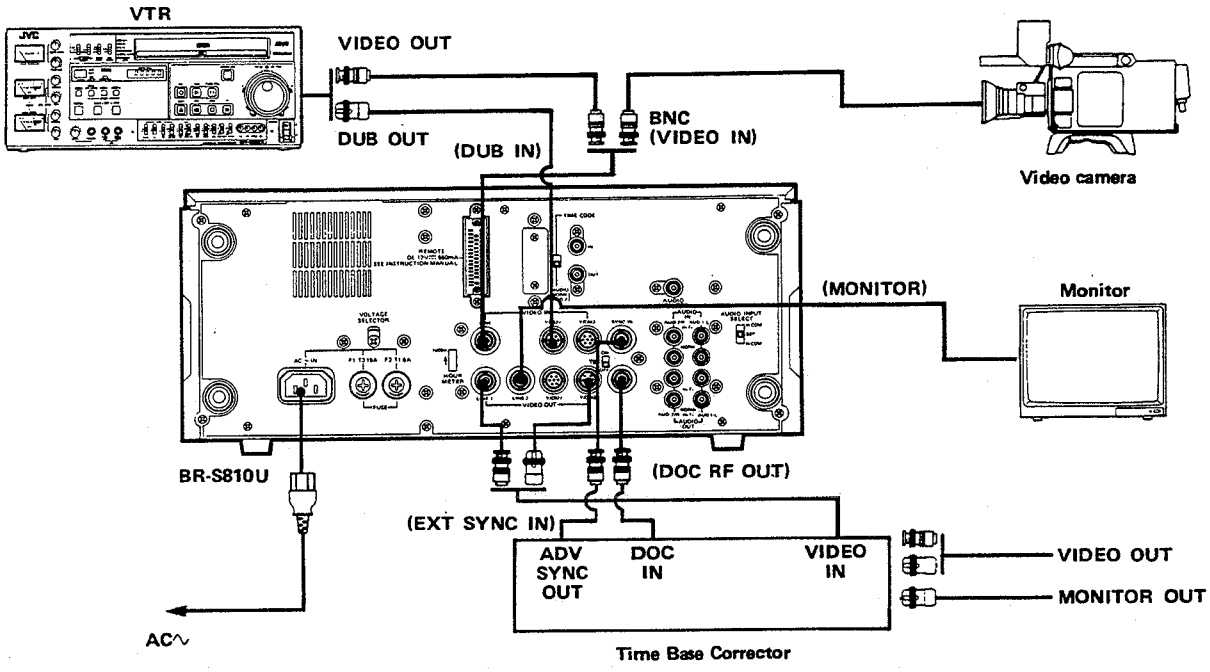
⓴ TIME CODE IN/OUT connectors
Connect a time code generator to the IN connector when you want to record the EBU time code. The TIME CODE. CODE/AUDIO select switch must be set to TIME CODE. To obtain the time code for editing, connect a time code reader to the OUT connector.

㉑ Time base corrector switch (TBC)
Normally set to OFF. When you use a TBC, set it to ON. Also set the SYNC select switch to EXT (PB).

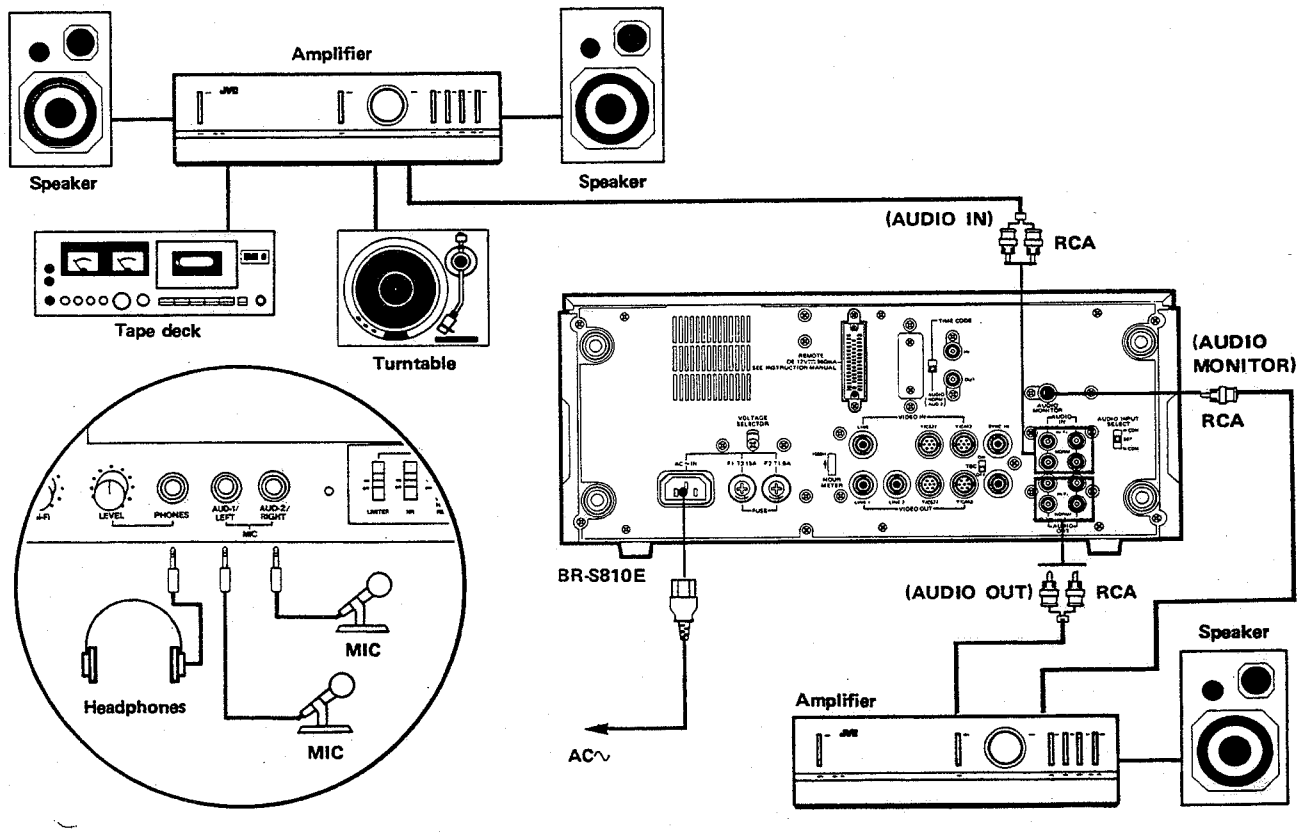
㉒ AUDIO OUT MONITOR connector
The audio signal selected by the AUDIO MONITOR switch is available via this connector.

CONNECTIONS

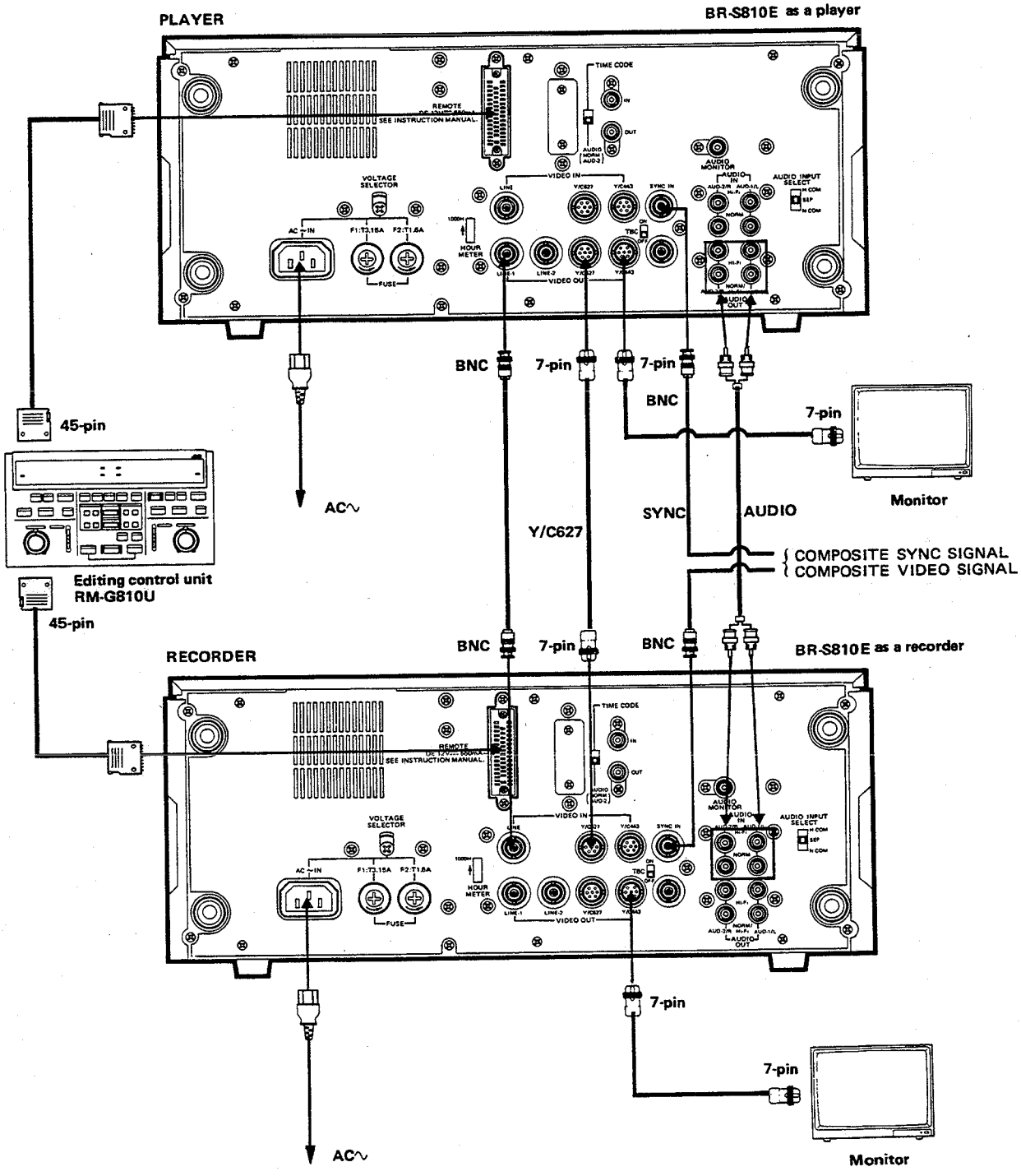
VIDEO EQUIPMENT CONNECTION



AUDIO EQUIPMENT CONNECTION

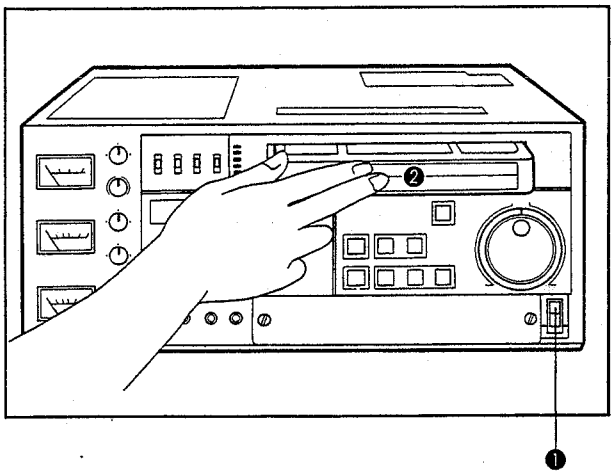


CONNECTION FOR TAPE-TO-TAPE EDITING



LOADING AND UNLOADING A VIDEO CASSETTE

LOADING



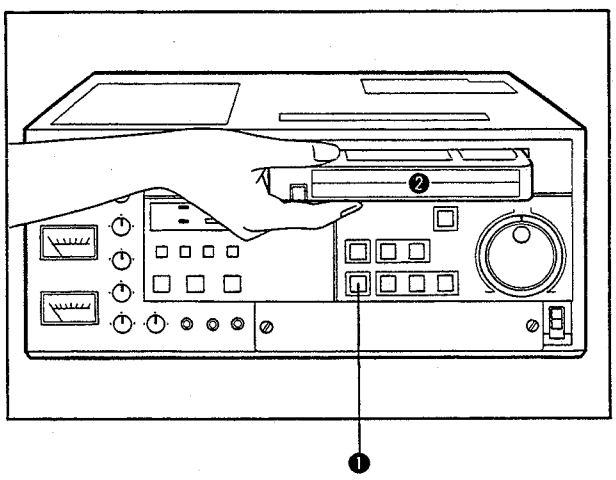
❶ Set the POWER switch to ON. The POWER indicator will light.

❷ Insert a cassette with its labelled side facing you. The cassette will automatically be retracted and loaded in the correct position.

- With a cassette inserted, the red door flap appears and displays the ●O mark to indicate "cassette inserted".
- The STOP button lamp will illuminate.
- The automatic loading mechanism will operate only when the cassette is inserted correctly.
- If loading does not result in positioning the cassette correctly, it will automatically be ejected after about 6 seconds.

Note:
After unpacking your new recorder the red door flap with the "cassette inserted" mark may be displayed. This is not due to any defect of the unit. Simply insert a cassette. After the first loading/unloading cycle, the door will function properly to show the blue flap when no cassette is inserted and the red flap when a cassette is inserted.

UNLOADING



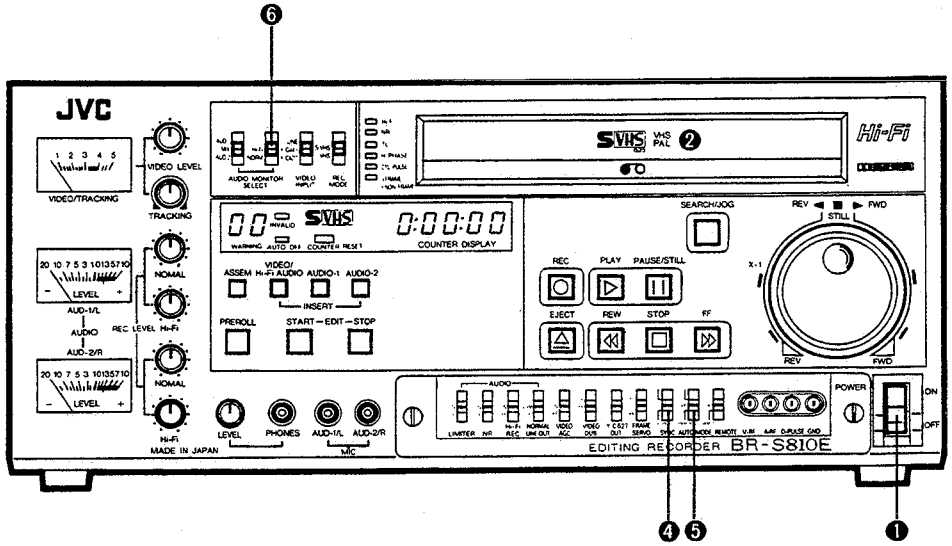
❶ Press the EJECT button in the Stop mode. The cassette will automatically be ejected.

❷ Remove the cassette from the cassette loading slot.

- The EJECT button can be pressed immediately after the STOP button has been pressed. The logic circuit will memorize the sequence; first setting the recorder in the Stop mode and then automatically changing it to the Eject mode.

PLAYBACK

PREPARATION



❶ Set the POWER switch to ON.
❷ Insert a pre-recorded video cassette into the cassette loading slot.
❸ When a time base corrector is used, set the rear panel TBC switch to ON and the SYNC switch to EXT (PB).
❹ Set the SYNC switch to VIDEO.
- If an external sync signal is used, set it to EXT (PB).

❺ Set the AUTO MODE switch as required. See page 13.
❻ Set the AUDIO MONITOR SELECT switch to either Hi-Fi or NORMAL.

Notes:
- If a video signal is applied to either VIDEO IN connector, playback is locked to this video signal. Therefore, if the sync signal contained in this video signal is not stable, the playback picture will be distorted when the SYNC switch is in the VIDEO position.
- The SEARCH x 1 mode can be used to change the reference signal selected by the SYNC select switch to an internal oscillator signal for distortion-free search.
- When dubbing to other recorders with this unit used as the player, set the VIDEO DUB switch to ON and set the YC627 OUT select switch according to the recorder and mode.
- When playing back, to stabilize the video signal when starting from the still mode, so that the servo mechanism is locked more quickly, set the FRAME SERVO switch to FRAME or OFF.

PROCEDURE

❶ Press the PLAY button. The tape will start running and the playback picture will appear on the monitor screen.
❷ Press the STOP button to stop playback.

Tracking adjustment
When a tape recorded with a different recorder is played back, noise bars may appear or the picture may be blurred. In such a case, turn the TRACKING control to correct the picture referring to both the monitored picture and the tracking meter (VIDEO/TRACKING level meter). Optimum tracking is obtained when the meter makes its maximum deflection.
Note:
It is recommended that tracking be checked even when tapes recorded using this unit are played back.

Input monitoring during playback
If you wish to monitor the signal applied to the input connector during playback, press the REC button in the Play mode. The input signal will appear on the monitor screen.
Note:
Do not press the REC and PLAY buttons simultaneously, otherwise the unit enters the Record mode and any recordings on the tape are erased.

DIAL SEARCH & SHUTTLE SEARCH

SHUTTLE SEARCH AND JOG CONTROL

The arrangement of the search dial and the jog dial is concentric; the outer control functions as a search dial and the inner, a jog dial. These functions are especially convenient for quick location of edit points.

SEARCH

Turn the outer dial until the desired search speed is reached.

- The search speed is continuously variable between 1/30 and 10 times normal in both directions.
- The STILL position (center click-stop) provides a still picture.
- Turn the dial clockwise to search in the forward direction and counterclockwise to search in the reverse direction.
- The X1 click-stop provides normal speed in the forward direction and X-1, in the reverse direction.
- There is another click-stop between X1 and the fully clockwise position and between X-1 and the fully counterclockwise position. These are the positions for 6 times normal speed in forward and reverse respectively.
- The fully clockwise position and the fully counterclockwise position provide about 10 times normal speed.

Notes:

- When the dial is set to the X1 click-stop, the internal sync mode is automatically entered.

JOG

Turn the inner dial.

- A still picture is obtained at any moment you stop turning the dial.
- To move the picture in the forward direction, turn the dial clockwise; to move it in the reverse direction, turn counterclockwise.

To cancel the search or jog mode:

- Press the PLAY, PAUSE/STILL, FF, REW or STOP button according to the mode you want to enter next. The search dial setting remains unchanged.

Notes:

- During search, an extra pair of video heads operate and pick up only even-number fields of the picture. When the dial is set to X1, frame playback is engaged.
- If the Still mode continues for too long a time, the tape could be damaged. Therefore, if you leave the unit in the Still mode for more than about 3 minutes 45 seconds, the video track being traced will shift automatically.

SEARCH REW/SEARCH FF

When the REW or FF button is pressed in the Stop mode, normal rewind or fast forward takes place. When these buttons are pressed in the Play, Search or Still mode, the tape runs at about 10 times normal speed in the corresponding direction. The buttons can be locked and the indicator lights. You can follow the speeded-up picture on the monitor screen.

REPEAT PLAYBACK, COUNTER SEARCH & AUTO REWIND

REPEAT PLAYBACK

When the entire tape, from the beginning to the end, is to be repeated, proceed as follows:

❶ Set the AUTO MODE switch to FULL REPEAT.

❷ Press the PLAY button to start playback.

- When the tape reaches its end, it is rewound to the beginning and then played back again automatically. The procedure is repeated as many times as desired.

COUNTER SEARCH

The counter search mechanism functions in conjunction with the tape counter and stops the tape automatically in the Rewind or Fast Forward mode at the counter reading of "0".

❶ Press the COUNTER RESET button at a point which you may wish to locate later.

❷ Set the AUTO MODE switch to MEMORY.

❸ Press the REW or FF button when you need to return to the designated point. The tape will stop automatically at the counter reading of "0".

Notes:

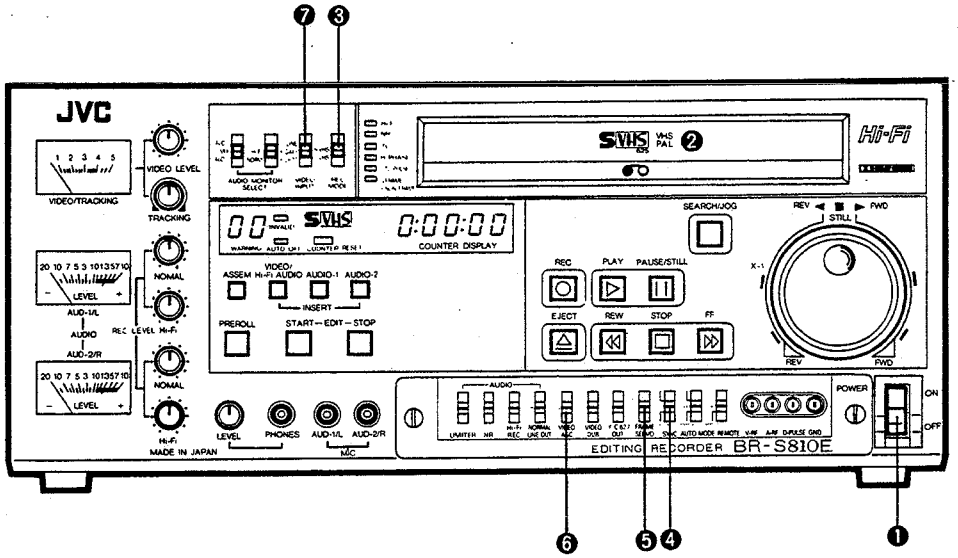
- The counter search mechanism does not function in the Shuttle Search mode.
- The tape may stop at a position slightly deviated from the counter reading of "0".

AUTO REWIND

When the tape reaches its end in the Play or Record mode, it is automatically rewound to the beginning and then the Stop mode is engaged. The counter search mechanism functions automatically while the tape is being rewound. If the tape reaches its end in the Fast Forward mode, the auto rewind mechanism does not function and the Stop mode is engaged immediately.

RECORDING

PREPARATION



❶ Set the POWER switch to ON.

❷ Insert a video cassette into the cassette loading slot.

❸ Set the REC MODE select switch.

VHS :To record in the VHS SP mode.

S-VHS: To record in the S-VHS SP mode. (Be sure to use an S-VHS tape.)

❹ Set the SYNC switch to VIDEO.

- If an external sync signal is used, set it to EXT (EDIT).

❺ Set the FRAME SERVO swtich to COLOR FRAMING if color framing servo is to be applied to editing.

- It is recommended that this switch be set to OFF when you record from a tape whose playback picture has an inferior S/N ratio, a multi-generation copy, a tape recorded using a random-interlaced ITV camera or a tape edited using another manufacturer's editor.

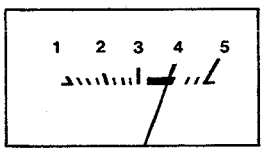
❻ Set the VIDEO AGC switch to ON if the built-in video AGC circuit is to be used.

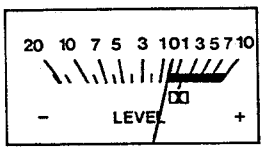
❼ Set the VIDEO INPUT switch as required.

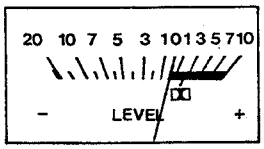
Note:

When this unit is used as a recorder in the VHS mode, set the VIDEO DUB switch to ON.

RECORDING LEVEL ADJUSTMENTS







Video level adjustment

- For automatic level control, set the VIDEO AGC switch to ON.
- For manual level control, set the VIDEO AGC switch to OFF and turn the VIDEO LEVEL control so that the VIDEO/TRACKING meter deflects into the green zone while applying the EIA color bar video signal to be recorded.

Audio level adjustment

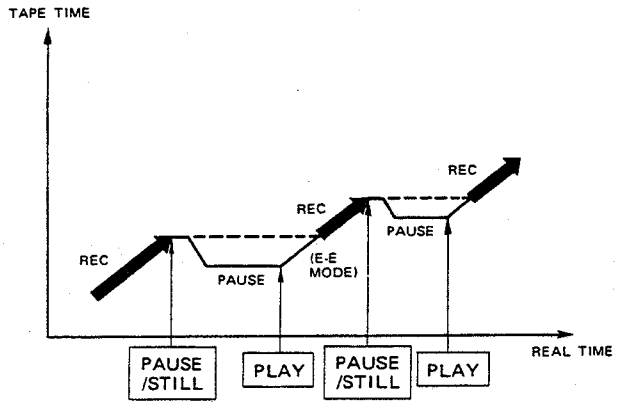
- Set the AUDIO INPUT SELECT switch, on the rear panel, depending on the input signal level.
- Turn the AUDIO REC LEVEL control until the AUDIO meter deflects to "0" with the loudest signal. This is the standard adjustment of the audio recording level.
- Set the LIMITER switch to ON to avoid eventual over-level recordings.

PROCEDURE

❶ Press the REC and PLAY buttons simultaneously. The Record mode will be engaged and both the REC and PLAY button lamps will light.

❷ Press the STOP button to stop recording.

RECORD PAUSE & ASSEMBLE RECORDINGS



Recording can be stopped temporarily and restarted without detectable distortion in the picture.

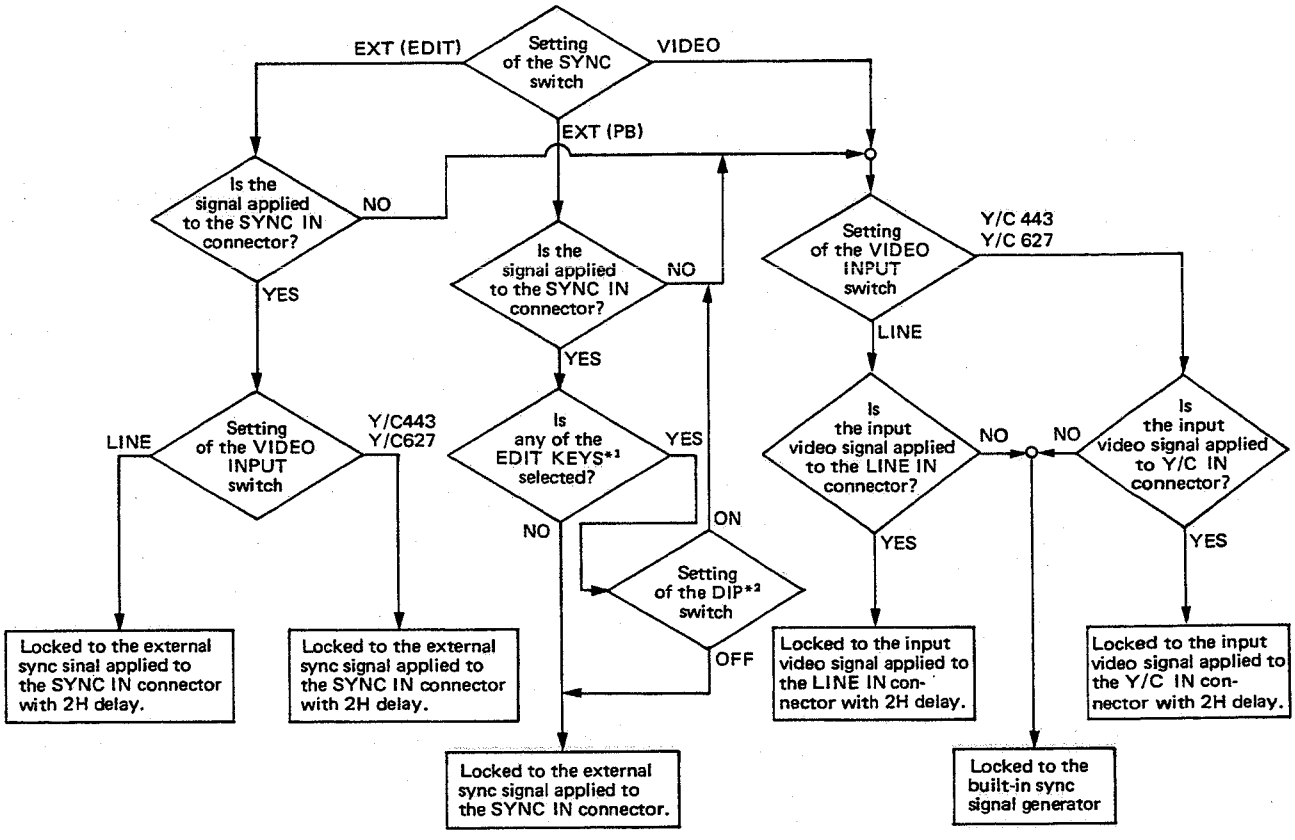
❶ Press the PAUSE/STILL button during recording. Recording will be stopped with the REC indicator still lit. The tape is automatically rewound by about 10 seconds of program time and stops in the Record Pause mode with both the REC and PAUSE/STILL indicators lit. The E-E picture will appear on the screen. When the PAUSE/STILL button is pressed again in this state, the picture recorded immediately before can be seen as a still picture.

- If recording is restarted immediately after the still picture appears, the top portion of the picture at the edit point may be skewed.

❷ To restart recording, press the PLAY button. The tape will be played back for about 2.5 seconds and the mode will switch automatically from playback to recording at the point where the PAUSE/STILL button was pressed.

Note: In this case, as the colour frame servo does not operate, colour flashing may occur at the edit point.

REFERENCE SYNC SIGNALS


Setting of the SYNC switch
EXT (EDIT)
VIDEO
EXT (PB)
Is the signal applied to the SYNC IN connector?
NO
YES
Is the signal applied to the SYNC IN connector?
NO
YES
Setting of the VIDEO INPUT switch
Y/C 443
Y/C 627
LINE
Setting of the VIDEO INPUT switch
LINE
Y/C443
Y/C627
Is any of the EDIT KEYS*1 selected?
YES
NO
ON
OFF
Setting of the DIP*2 switch
Is the input video signal applied to the LINE IN connector?
NO
YES
Is the input video signal applied to Y/C IN connector?
NO
YES
Locked to the external sync sinal applied to the SYNC IN connector with 2H delay.
Locked to the external sync signal applied to the SYNC IN connector with 2H delay.
Locked to the external sync signal applied to the SYNC IN connector.
Locked to the input video signal applied to the LINE IN connector with 2H delay.
Locked to the built-in sync signal generator
Locked to the input video signal applied to the Y/C IN connector with 2H delay.

*1 EDIT KEYS: The editing function buttons (ASSEM, AUDIO-1, AUDIO-2, VIDEO/Hi-Fi AUDIO and EDIT START) and REC button.

*2 DIP switch: An internal switch. Please consult JVC's service section.

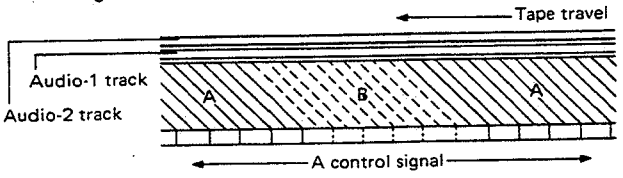
ELECTRONIC EDITING

TYPES OF ELECTRONIC EDITING

Electronic editing includes two different types of functions: insert editing and assemble editing. The signals to be inserted or assembled can be camera signals, TV broadcast signals or playback signals from a video cassette recorder.

Insert editing

Insert editing is a technique for replacing part of the recorded video and/or audio signals with new recordings, utilizing the control signals already recorded.



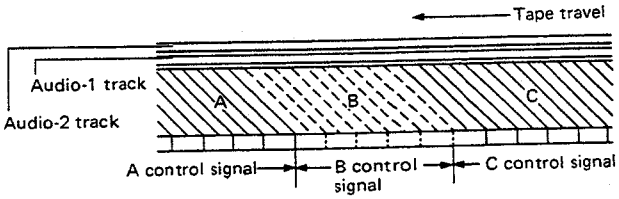
In the Insert Edit mode, the video, audio-1 and audio-2 signals can be recorded separately or in any combination. This means you can edit both video and audio signals simultaneously or first edit the video signal and then the audio signals in accordance with the newly recorded video signal. Or you can edit the audio signals first and then record new images in accordance with the sound.

Note:

Insert editing should be applied to those tape segments on which the video and control signals have been correctly recorded in advance.

Assemble editing

Assemble editing is a technique in which video and audio signals together with the control signal are newly recorded following an already recorded control signal to edit a full-length tape. This is convenient for editing short scenes one after another.



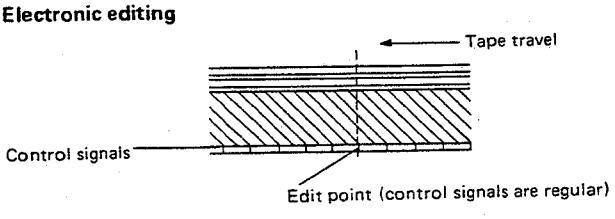
MECHANISMS FOR ENHANCING EDITING ACCURACY

The BR-S810U is fully equipped for high-accuracy electronic editing.

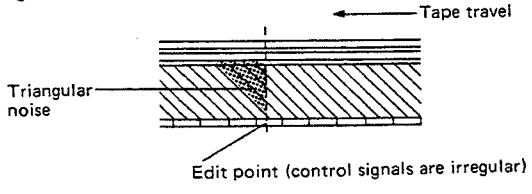
Rotary erase mechanism

The rotary erase mechanism is essential for quality edits. A pair of erase heads are mounted on the head drum each before a corresponding video head and, in both insert and assemble editing, these erase heads erase the recorded signal on each track before the video heads record new signals. Unlike home-use editing mechanisms using a fixed erase head which allow new recordings over old ones and result in triangular noise, the rotary erase mechanism provides cleaner edits free from noticeable distortion. It also enables separate use of the video, audio-1 and audio-2 tracks for flexible editing.

Electronic editing



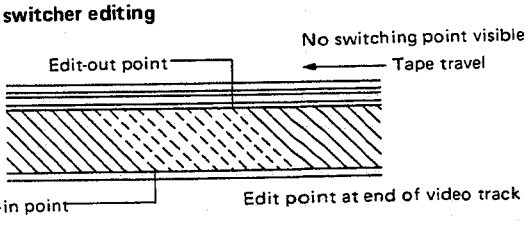
Editing with fixed erase head



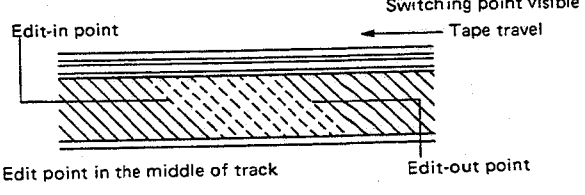
Blanking switcher mechanism

The rotary erase mechanism cannot provide perfect edits on its own. If editing is started in the middle of one video track, a switching point will be noticeable on the screen momentarily. To avoid this, the blanking switcher mechanism controls editing so that the switching point always falls on the blanking period of the video signal (during this period, switching from one track to another takes place in perfect synchronization outside the raster). Because the signal is not visible on the screen during the blanking period, there is no distortion at edit points.

Blanking switcher editing

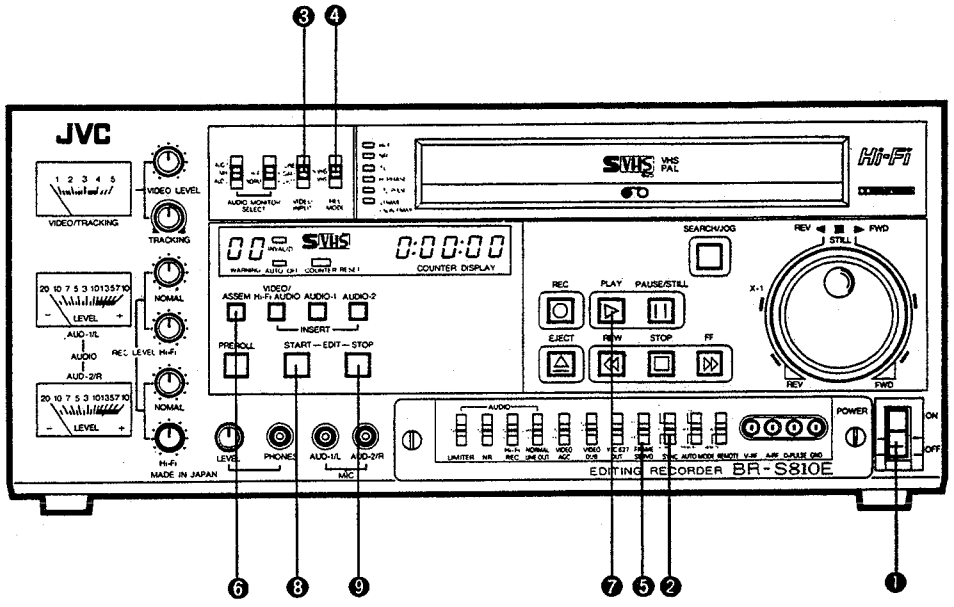


Ordinary editing



EDITING OPERATION

ASSEMBLE EDITING



❶ Set the POWER switch to ON and load a video cassette correctly.

❷ Set the SYNC switch to VIDEO.
- If external sync is to be applied, set it to EXT (EDIT).

❸ Set the VIDEO INPUT select switch as required. See page 6.

❹ Set the REC MODE select switch to VHS or S-VHS.

❺ Set the FRAME SERVO switch to COLOR FRAMING if color framing servo is to be applied to EDITING.
- It is recommended that this switch be set to OFF when you record from a tape whose playback picture has an inferior S/N ratio, a multi-generation copy, a tape recorded using a random-interlaced ITV camera or a tape edited using another manufacturer's editor.

❻ Press the ASSEMBLE button to ON.

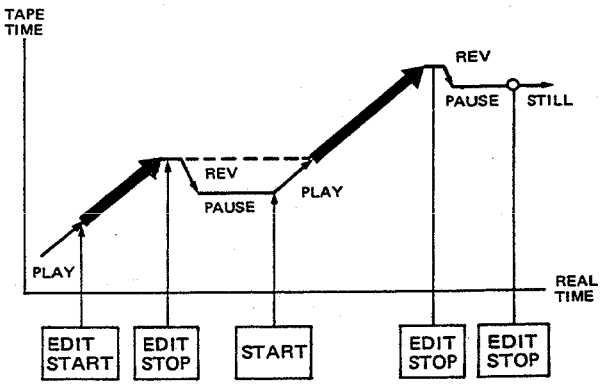
❼ Press the PLAY button to start playback.

❽ Press the EDIT START button at the point where you wish to introduce new program material. The video and audio signals are all recorded simultaneously.

❾ Press the EDIT STOP button to stop assemble editing. This cancels recording and rewinds the tape for about 10 seconds of program time and stops. The Record Pause mode has been engaged.

❿ To assemble more program material following the previous edit press the EDIT START button. First the Play mode is entered and, when playback proceeds to the point where the previous edit ended, recording of the new program material begins automatically.

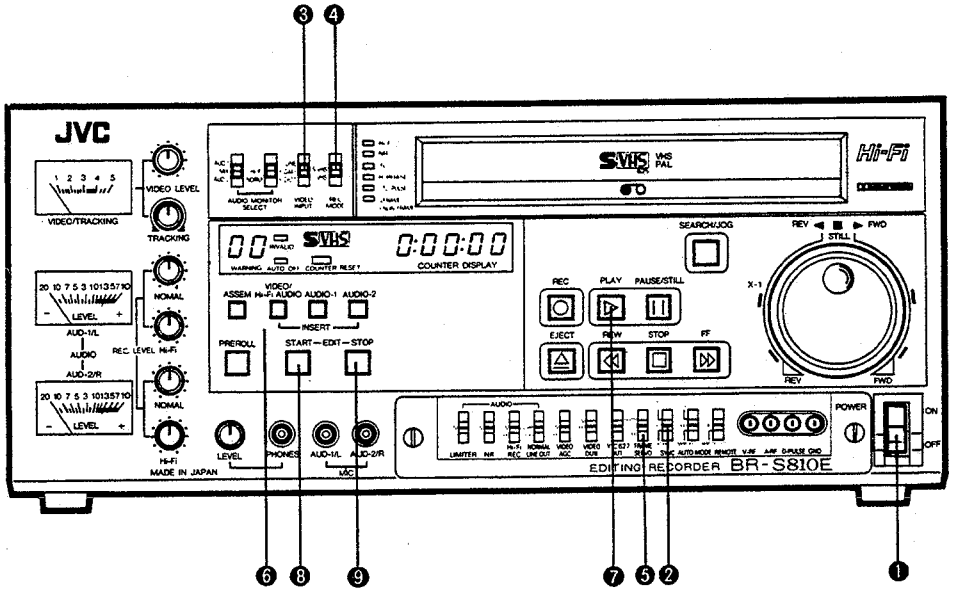
Notes:
- YC627 dubbing cannot be performed from VHS to S-VHS.
- In YC627 dubbing using a VHS tape worn by being dubbed several times in the player in the VHS mode, the INVALID indicator may light.
- In YC627 dubbing, the top of the EE picture from the recorder may be distorted. This is not due to a defect in the unit. This distortion does not influence recording and playback.
- In YC627 dubbing, colour flashing may occur at the edit point. In this case, it is recommended to use YC 443 dubbing on composite dubbing.



⓫ Assembling of successive program segments can be continued simply by pressing the EDIT STOP and the EDIT START buttons alternately.

⓬ To cancel the assemble editing mode after completion of the assemble editing process, press the EDIT STOP button.

INSERT EDITING



❶ Set the POWER switch to ON and insert a video cassette correctly.
❷ Set the SYNC switch as required.
- Refer to page 15.

❸ Set the VIDEO INPUT select switch as required.
- Refer to page 6.

❹ Set the REC MODE select switch as required.
❺ Set the FRAME SERVO switch to COLOR FRAMING if color framing servo is to be applied to EDITING.
- It is recommended that this switch be set to OFF when you record from a tape whose playback picture has an inferior S/N ratio, a multi-generation copy, a tape recorded using a random-interlaced ITV camera or a tape edited using another manufacturer's editor.

❻ Press one or more of the INSERT buttons depending on the signals to be inserted.

AUDIO-1: Press this button to ON when you wish to replace the sound on the audio-1 track. Leave it OFF to preserve the original sound.

AUDIO-2: Press this button to ON when you wish to replace the sound on the audio-2 track. Leave it OFF to preserve the original sound.

VIDEO/ Hi-Fi AUDIO: Press this button to ON to replace the video signal/Hi-Fi audio signal with new material. Leave it OFF to preserve the original picture and original sound.

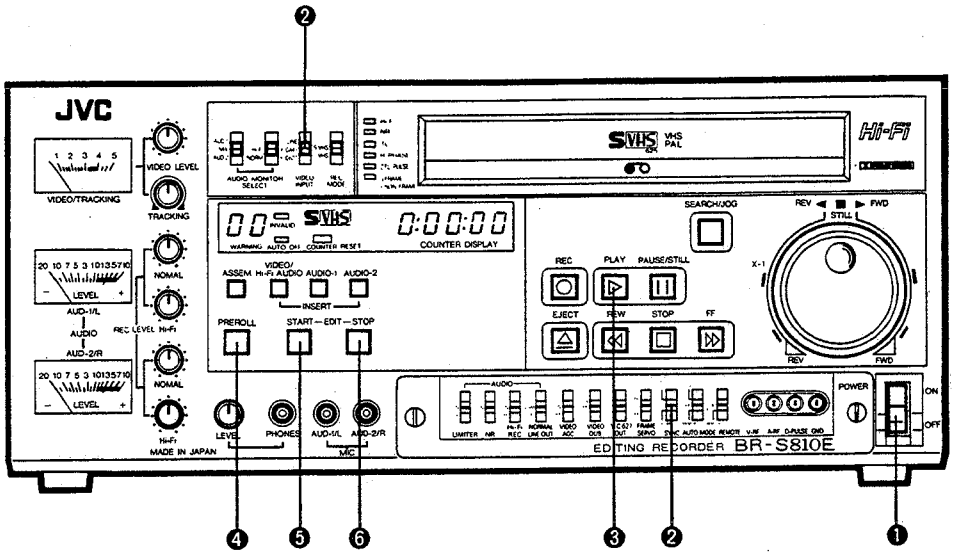
❼ Press the PLAY button to start playback.
❽ Press the EDIT START button at the point where you wish to insert new program material. Recording will take place only for the channels which have been selected with the INSERT buttons.

Note: The INSERT buttons (VIDEO/Hi-Fi AUDIO, AUDIO-1 and AUDIO-2) can be switched ON or OFF independently at any time while in the Insert Edit mode.

❾ To stop insert editing, press the EDIT STOP button. The recorder will enter the Play mode.

Notes:
- Insert editing is not possible with tapes without correctly recorded control signals.
- Insert editing will stop automatically if a tape segment without correctly recorded control signals is reached.

PREROLL EDITING



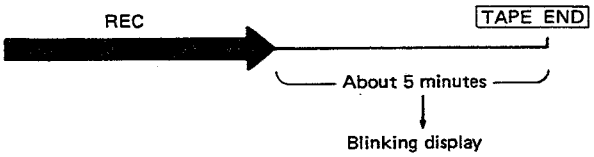
This function enables edit-in points to be determined accurately in both the Assemble and Insert Edit modes.

❶ Set the POWER switch to ON and insert a video cassette correctly.
❷ Set the SYNC and VIDEO INPUT switches as required.
❸ Press the PLAY button to start playback and determine the edit-in point using search functions (see page 13). Press the PAUSE/STILL button at the edit-in point.
❹ Press the PREROLL button. The tape will be rewound by about 10 seconds of program time and stop in the Pause mode.
❺ Press the EDIT START button. First the Play mode is engaged and then the recorder automatically switches to the Record mode at the predetermined edit-in point.
❻ To stop editing, press the EDIT STOP button.
- In the Insert Edit mode, the Play mode will be entered.
- In the Assemble Edit mode, the Record Pause mode will be entered.

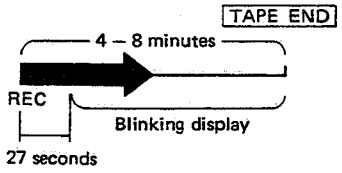
TAPE END WARNING

Tape end warning is given only during recording.

- The counter display starts blinking about 5 minutes before the end of the tape during recording.



- If recording is started with a cassette with a remaining tape time of only 5 minutes or so, the display starts blinking about 27 seconds after recording has started.



Notes:
- The timing of tape end warning differs slightly depending on the type of cassette.
- With a EC-30 compact video cassette (in its adapter), tape end warning does not function.

WARNING DISPLAY

DIAGNOSTIC CODES

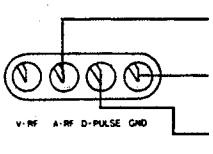
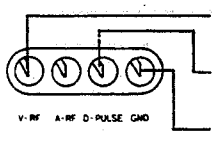
The WARNING display indicates various malfunctions and warnings by numerical codes. When the AUTO OFF indicator lights, it is necessary to turn the power off in order to recover the machine.

	Display		Cause of trouble or warning	Symptom/Operation
	Code	AUTO OFF LED		
Sensors	01	ON	Tape-end sensor LED is blown out.	The cassette is ejected. After ejection, cassette loading is not possible.
	02	ON	Moisture condensation.	The cassette is ejected. After ejection, the drum starts rotating and a cassette cannot be loaded. When condensation has been eliminated, the display turns off and cassette loading becomes possible.
	04	ON	Reel servo power insufficient.	All operations stop and all controls become inoperative.
	05	ON	CPU malfunctions.	All operations stop and all controls are inoperative.
	06	OFF	Playback of LP recordings was attempted.	The cassette is ejected. The display turns off when a cassette is inserted again. Then normal operation to restored.
Loading mechanism	32	OFF	Tape cannot be loaded correctly.	The tape will be unloaded and the cassette ejected. Insert cassette again.
	33	ON	Tape cannot be unloaded.	All controls become inoperative.
	36	OFF	Tape cannot be half-loaded.	The cassette is ejected. After ejection, re-loading of a cassette is possible. When the display disappears, normal operation is restored.
	37	ON	Tape cannot be unloaded from the half-loaded position.	All operations stop and all controls are inoperative.
	39	ON	Unloading does not take place after "32".	All operations stop and all controls are inoperative.
Cassette compartment	40	OFF	Cassette compartment does not retract.	The cassette will be ejected. Insert it again.
	41	ON	Cassette compartment does not lift.	Retracting will be performed again. If able to complete retraction, controls become inoperative when the compartment reaches the fully retracted position.
	42	ON	After "41", retracting fails.	All controls become inoperative.

	Display		Cause of trouble or warning	Symptom/Operation
	Code	AUTO OFF LED		
Leader tape detection	56	OFF	Both tape beginning and end sensors are ON because of broken tape, etc.	The cassette is ejected. The display turns off when a cassette is inserted again. Then normal operation is restored.
	57	OFF	Tape end sensor turns ON during half loading.	Rewind mode is engaged and, if the leader tape is detected within about 3 seconds, the cassette is ejected. The display turns off when a cassette is inserted again. Then normal operation is restored.
	58	OFF	Tape beginning sensor turns ON during half loading.	FF mode is engaged and, if the leader tape is detected within about 3 seconds, the cassette is ejected. The display turns off when a cassette is inserted again. Then normal operation is restored.
Rotating system	70	OFF	Drum motor stops.	All controls except EJECT are inoperative. Recovers when a cassette is inserted again.
	71	OFF	Capstan motor stops.	All controls except EJECT are inoperative. Recovers when a cassette is inserted again.
	72	OFF	Supply reel rotates abnormally.	All controls except EJECT are inoperative. Recovers when a cassette is inserted again.
	73	OFF	Take-up reel rotates abnormally.	All controls except EJECT are inoperative. Recovers when a cassette is inserted again.

TEST POINTS

The output signals from the Hi-Fi audio heads and video heads are available at the front panel test points. Connect an oscilloscope to these test points to check the performance and condition of the unit.

Connection	Items to be checked	Standard waveform
Hi-Fi audio head output  To input terminal of oscilloscope To ground terminal of oscilloscope To external trigger terminal of oscilloscope	• Tape-to-head contact • Tape running stability • Inferior RF after head replacement	• "+" triggered CH-1 CH-2
Video head output  To input terminal of oscilloscope To external trigger terminal of oscilloscope To ground terminal of oscilloscope	• Compatibility of tape pattern • Tape-to-head contact • Tape running stability • Tracking • Video signal recording level • Abnormality in RF Use a 10:1 probe.	• "+" triggered CH-2 CH-1